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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,193

11/25/2003

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040405-0365

4222

22428 7590 08/28/2008
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EXAMINER

BARON, HENRY

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

08/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/720,193	Applicant(s) SHIBASAKI, KAZUNORI	
	Examiner HENRY BARON	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 5 – 6, 8, 10, and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5 – 6, 8, 10, and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

MOBILE COMMUNICATION BASE STATION DEVICE AND QOS CONTROL METHOD AND PROGRAM THEREOF

Response to Arguments/Remarks

1. Claims 1, 3, 5 – 6, 8, 10, and 12 are pending in this application with claims 1, 5, 6, and 10 currently amended and claims 2, 4, 7, 9, 11, and 13 cancelled.
2. Applicant's arguments filed 05/12/2008 have been fully considered but they are not persuasive.
3. Applicant argues that neither Raychaudhur or Kobayshi teach of a channel control unit to regulate ATM channel bandwidth or of a channel QoS management unit that gives instructions to the channel control unit based on the state information of the wireless channel. Applicant asserts that Kobayashi is directed to an apparatus for establishing a common signal channel with a flexible channel capacity for effective utilization of the total traffic capacity between two exchanges or systems by "traffic volume detecting means for detecting traffic volume in a common signal channel" where the traffic volume is provided to a "channel capacity change determining means for determining whether a channel capacity to which the common signal channel is set to change or not.. based on the traffic volume detected by the traffic volume detecting means.
4. Applicant asserts that, in contrast, independent claim 1 recites that a channel QoS management unit gives "channel control instructions based on the state information of the wireless channel" and "to use of a band of the ATM channel appropriate for the state of the wireless channel." In other words, the ATM band of the ATM channel is instructed based on the state of the wireless channel. Applicant submits that setting a common signal channel capacity based on a measured traffic value is not the same as instructing an ATM channel based on the state of a wireless channel.
5. Examiner replies that Raychaudhur teaches a mobile communication base station device, QoS control method, and program in a mobile communication base station device that conducts radio communication with mobile apparatuses connected to an ATM network using modulation/demodulation

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and coding/decoding is complemented by Kazutoshi who teaches of a wireless channel state monitoring unit; channel control unit for ATM channel bandwidth and a QoS management unit. Examiner submits that setting a common signal channel capacity based on a measured traffic value is the same as instructing an ATM channel based on the state of a wireless channel, since in both instances the state of the channel determines the bandwidth capacity.

6. Applicant further argues that amended claims 1, 5 – 6, and 10 now recite that the QoS management unit instructs said channel control unit "to set priority to each data received from the plurality of mobile apparatuses according to a state of each wireless channel through which the data in question is transmitted and received and conduct relay through said ATM channel based on the priority in question."

7. Applicant argues that Kazutoshi teaches that the speech channels have priority over the common signal channels with regard to the remaining segment of interoffice channel capacity and submits that such a teaching has relation whatsoever to setting the priority to each data received from the plurality of mobile apparatuses according to the state of each wireless device. First, Kazutoshi's teaching does not relate to setting a priority for data received from wireless devices. Second, Kazutoshi's teaching does not relate to setting a priority based on a state of each wireless channel through which the data in question is transmitted and received. Instead, Kazutoshi teaches that that a speech channel has priority over a common signal channel.

8. Examiner argues that since the data received on the channel are from end users such as the from wireless devices as taught by Raychaudhur, then the limitation of '... wherein said channel Qos management unit instructs said channel control unit to set priority to each data received' can be interpreted to distinguish voice signal data given higher priority then common signal data, and therefore teaches of setting a priority on the state of each wireless channel.

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Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 5 – 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhur, (U.S. Patent 563871) in view of Kazutoshi et al. (U.S. Patent 5978380), hereafter Kazutoshi.

11. Regarding Claims 1, 5 – 6, and 10, Raychaudhur teaches of a mobile communication base station device, QoS control method, and program in a mobile communication base station device that conducts radio communication with mobile apparatuses connected to an ATM network using modulation/demodulation and coding/decoding. (Figure 2). The examiner notes that it is common for wireless base stations to use modulation/demodulation to attach data to carrier signals and coding/decoding to mitigate data errors in transmissions. See, for example, Han et al. (U.S. Patent US 6795416) Abstract which is cited here as evidence.

12. However, Raychaudhur is silent with regards to a channel control unit to regulate ATM channel bandwidth or of a channel QoS management unit that gives instructions to the channel control unit based on the state information of the wireless channel.

13. Kazutoshi, by contrast, teaches of a wireless channel state monitoring unit (3:45-60; i.e. traffic monitor detecting means of a common signal channel); channel control unit (3:45-60; i.e. channel capacity executing mean) for ATM channel bandwidth and a QoS management unit (3:45-60 and Figure 1; i.e. channel capacity change determining mean). Note, Kazutoshi teaches of channel state (e.g. common channel signaling monitoring) between two generic exchange units (Figure 1; elements 3 and 4).

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However, from a data interface view, one exchange unit could be a base station and a second exchange unit could be ATM switch.

14. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the ATM teachings of Raychaudhur with the channel monitor, control and change teachings of Kazutoshi to map ATM bandwidth with wireless channel conditions. By doing do, valuable ATM bandwidth can be re-allocated to other network services when the wireless channel conditions are poor e.g. high BER and C/N, and conversely additional ATM bandwidth can be re-allocated when the wireless channel conditions are good. This would optimize the ATM network and make it more economical. In a second embodiment Kazutoshi teaches that channel QoS management unit instruct the channel control unit to set priority to each data received from the plurality of mobile apparatuses. (6:51-67 and 7:1-5 and Figure 6).

15. Claims 3, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raychaudhur, (U.S. Patent 563871) in view of Kazutoshi et al. (U.S. Patent 5978380), hereafter Kazutoshi and further in view of Aznar et al (U.S. Patent 6754182), hereafter Aznar.

16. Regarding Claims 3, 8, and 12, though teaching the limitations of Claim 1, neither Raychaudhur nor Kazutoshi teach at the time of decoding in coding/decoding unit, record time information; transfer data to the channel control unit together with the recorded time information; and abandon data whose delay exceeds a delay designated by the Channel QoS management unit.

17. However, Aznar teaches of an ATM traffic-policing algorithm where conforming cells are accepted into the network and non-conforming cells may be disposed, i.e. abandoned, of immediately. Aznar's method allow use of a finite counter for measuring elapsed time at entry ports of ATM switching nodes (Abstract, Figure 1; 3:26-50)

18. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the ATM teachings of Raychaudhur, the channel monitor, control and change

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teachings of Kazutoshi with the ATM traffic policing algorithm of Aznar to record time information i.e. timestamp, during codec and then use the policing algorithm in the Channel QoS management unit to regulate which data is passed to the ATM network.

19. In this manner, tardy data, i.e. cells, can be immediately abandoned so as not to consume valuable ATM bandwidth. This would further improve the efficiency of the network, making it more cost effective. Integrating the ATM traffic-policing algorithm in the Channel QoS management unit is logical because policing traffic is the main function of that unit.

FINAL ACTION

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

21. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Baron whose telephone number is (571) 270-1748. The examiner can normally be reached on 7:30 AM to 5:00 PM E.S.T. Monday to Friday.

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23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bruce can be reached on (571) 272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. B./
Examiner, Art Unit 2616

HB

/Brenda Pham/
Primary Examiner, Art Unit 2616